Claim Rejections -- 35 U.S.C. § 102

Applicant acknowledges the quotation of 35 U.S.C. § 102(b).

Claims 1-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Capehart (5,547,584).

With reference to Fig. 1 of Capehart, the Office contends that Capehart describes a process for ozonizing including a preseparator 8, a tank **10**, an ozone system **150** and recirculate lines **314, 303** which circulate water from tank **10** to the ozone system for contacting until the desired ORP is achieved. The Office cites col. 9, lines 2+, which states that:

> The oxidation reduction potential (ORP) of the water being contacted by ozone is monitored as hereinafter detailed. As also hereinafter more fully described, ozone is preferably generated on-board the unit **100** by an ozone generation unit **150** and the ozone supply is controlled to maintain the ORP at a desired level to obtain desired output from the system.

The limitations of Applicant's claims include collecting wastewater in a tank, transferring the wastewater from the tank to the ozone system, oxidizing the wastewater at the ozone system, transferring the oxidized wastewater to the tank, monitoring the amount of oxidation of the wastewater in the tank and recirculating the water through the ozone system until a desired oxidation level is reached. With this method, all the penetrant-laden water recirculates from the tank to the ozone system and back to the tank until the desired oxidation level is obtained. With this method, none of the wastewater is re-used as rinse water or discarded until the ORP of all the wastewater in the tank meets the required level. The process claimed by the present invention prevents contaminated wastewater from leaving the tank regardless of the flow rate of the wastewater or the contamination level.

By contrast, Capehart teaches at Fig. 1, water entering the ozone contact chamber through the strainer **2**, water entering the ozone chamber at **302** as recirculated ozonated water, water exiting the ozone chamber at **303** as a recirculation stream, water exiting the ozone chamber at **306**, and water exiting the ozone chamber at **314** as a recycle stream. The measurement of the oxidation level is said to take place at the venturi booster pump **32** and be a measurement of mixed streams **303** and **314**. With the method taught by Capehart, as described at col. 13, lines

9-25, the entire water stream is recirculated **314** until a 200mV or greater ORP level is sensed at the ozone contact chamber **10**. When such an ORP level is sensed at the chamber **10**, recirculation is discontinued. Water will continue to recirculate at **303** and the ORP will be measured. When the ORP falls below an acceptable level, recirculation of the water will again resume through **314** until the ORP reaches an acceptable level again. Due to the multiple entrance and exit points with regard to the ozone chamber, and the continuous flow of water through the system, water that does not meet the ORP level will escape and be processed through the reminder of the system at **306** in the interim between the time the low ORP level is sensed and the time it takes for the system to respond by recycling all of the contaminated water through **314** until the acceptable ORP is reached.

Wastewater existing between **10** and **14** that does not meet the ORP level will escape and be circulated through the system in the interim between the time a low ORP level is sensed and the time required for the system to respond and recirculate all the wastewater through **314** until the acceptable ORP is reached.

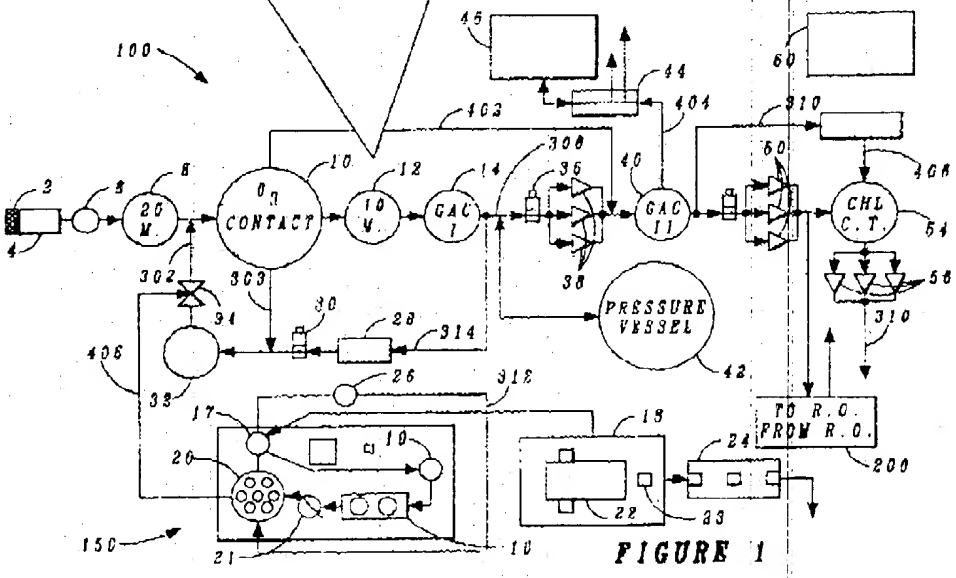
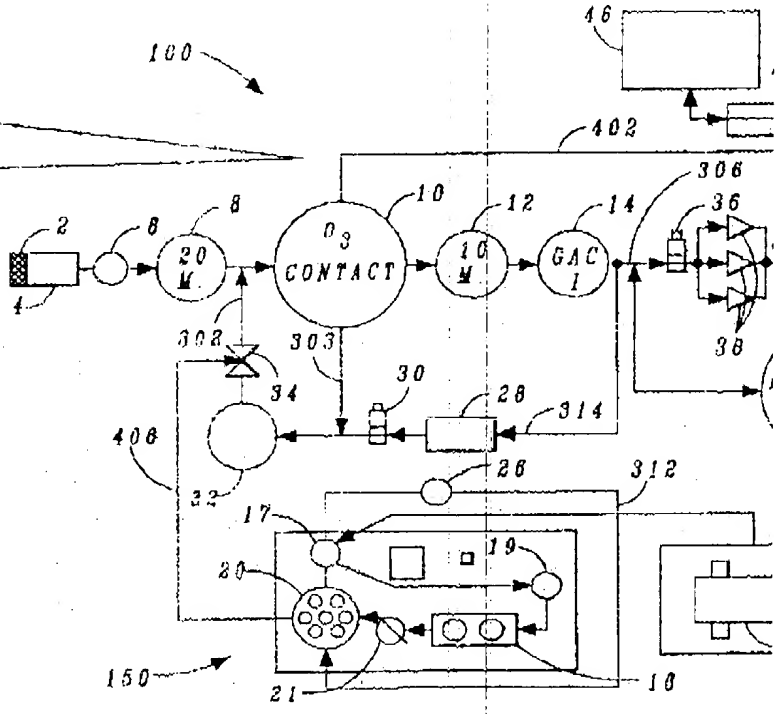


FIGURE 1

Additionally, Capehart teaches producing the ozone at the ozone system, injecting the ozone into a water stream and passing the water stream into a contact chamber to oxidize the incoming water stream. The Office contends that the ozone contact chamber of Capehart is equivalent to the tank claimed by the present invention. The applicant respectfully disagrees with the Office's conclusion. The tank claimed by the present invention provides storage capability for the wastewater in process. The ozone system claimed by the present invention includes both ozone generation capability and wastewater contact with ozone capability. Therefore, both the generation of the ozone and the contact of the wastewater with the ozone to achieve ozonation occur within the ozone system of the present invention. As such, the wastewater in process is transferred from the storage tank to the ozone system where it is treated with ozone and back to the storage tank where the ORP is measured. Capehart does not describe a method whereby the wastewater resides in a tank and is then processed through an ozone system as claimed by the present invention. The plurality of inlets and outlets from the contact chamber described by Capehart result in a continuous flow system that is unable to provide containment and controlled recycling of the contaminated wastewater until a desired ORP is reached. Therefore, Capehart does not teach the tank of the present invention.

Plurality of inlets and outlets from the contact chamber **10**, include **306**, **303**, **314** and **302**.



In addition, Capehart teaches at col. 9, line 6-7 that the ozone supply is controlled to maintain the ORP at a desired level. Therefore, adjustments are made to the supply of ozone from the ozone generator to accommodate for changes in the ORP level. By contrast, the present invention does not adjust the supply of ozone to accommodate for changes in the ORP level. In the present invention, the desired ORP level is maintained by recirculating the wastewater through the system until the level is reached.

As such, Capehart does not anticipate the present invention.

Claims 1-15 have been rewritten to produce independent claims 1 and 7 and dependent claims 2-6 and 8-15. Independent claims 1 and 7 as rewritten more clearly represent that which applicant regards as the invention.

Capehart does not describe a method for treating wastewater comprising the steps of: providing an ozone system; transferring the penetrate-laden wastewater from the tank to the ozone system; oxidizing the wastewater at the ozone system; returning the oxidized wastewater to the tank; monitoring the amount of oxidation of the wastewater in the tank; and repeating the

steps of transferring, oxidizing, returning and monitoring until the amount of oxidation reaches a predetermined level as claimed by the present invention.

As such, independent claims 1 and 7, as amended, are not anticipated by Capehart and are believed to be in condition for allowance.

Claims 2-6 are dependent from independent claim 1 and are therefore in condition for allowance.

Claim Rejections – 35 U.S.C. § 103

Applicant acknowledges the quotation of 35 U.S.C. § 103(a).

Claims 7-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mannilo (5,787,537) in view of Capehart (5,547,584). With reference to Fig. 1 of Mannilo, the Office contends that Manillo describes the treatment of wastewater in which the wastewater is screened at **20**, subjected to aeration flotation at **100**, and then sent to a tank **210**, which circulates water through an ozone generator treatment **230**. The sterilized water is filtered and reused or discharged. The Office further states that Mannilo's ozonation treatment is to oxidize organics from the water, as is Capeharts. Capehart teaches that one may beneficially control the ozonation by measuring the ORP until a desired level is reached and to so modify Mannilo with such a benefit would result in a water product having less organics therein which would have been obvious to one of ordinary skill in the art.

Claims 7-15 have been rewritten to produce independent claim 7 and dependent claims 8-15. Independent claim 7 as rewritten more clearly represents that which applicant regards as the invention. Capehart does not describe a method for treating wastewater comprising the steps of: collecting the pre-treated wastewater in a tank; providing an ozone system; transferring the penetrate-laden pre-treated wastewater from the tank to the ozone system; oxidizing the pre-treated wastewater at the ozone system; returning the oxidized wastewater to the tank; monitoring the amount of oxidation of the wastewater in the tank; and repeating the steps of transferring, oxidizing, returning and monitoring until the amount of oxidation reaches a predetermined level as claimed by the present invention.

As such, independent claim 7, as amended, is not anticipated by Manillo in view of Capehart and is believed to be in condition for allowance.

Claims 8-15 are dependent from independent claim 7 and are therefore in condition for allowance.

Notice of Allowance is requested. Applicant is entitled to the *quid pro quo* promised to those who advance the useful arts.

Conclusion

Applicant agrees that the prior art made of record and not relied upon is not more pertinent to the applicant's disclosure.

If the Office is not fully persuaded as to the merits of Applicant's position, or if an Examiner's Amendment would place the pending claims in condition for allowance, a telephone call to the undersigned at (727) 507-8558 is requested.

Very respectfully,

SMITH & HOPEN

By: _____

Dated: October 9, 2002

Anton J. Hopen
Suite 220
15950 Bay Vista Drive
Clearwater, FL 33760
(727) 507-8558
Attorneys for Applicant

CERTIFICATE OF FACSIMILE TRANSMISSION
(37 C.F.R. 1.8)

I HEREBY CERTIFY that this Amendment B, including Exhibit A, is being faxed to the United States Patent and Trademark Office, Technology Center 1700, Art Unit 1724, Attn: Thomas M. Lithgow, (703) 872-9310 on October 9, 2002.

Dated: October 9, 2002

_____
Deborah Preza

EXHIBIT A

1. (Once amended) A method for treating [waste rinse water] wastewater, comprising the steps of:

[(a)] providing an ozone system;

[(b)] collecting wastewater in a tank [means];

[(c)] transferring the [said] wastewater from [said] the tank to [said] the ozone system;

[(d)] oxidizing [said] the wastewater at [said] the ozone system;

[(e) transferring] returning [said] the oxidized wastewater to [said] the tank [means];

[(f)] monitoring the amount of oxidation of [said] the wastewater in the tank; and

repeating the steps [of (b) through (f)] of transferring, oxidizing, returning and monitoring until [said] the amount of oxidation [declines to] reaches a predetermined level.

2. (Once amended) The method of claim 1, wherein the steps [(c) through (e)] of transferring, oxidizing, returning and monitoring are repeated continuously until [said] the amount of oxidation [declines to] reaches a predetermined level.

3. (Once amended) The method of claim 1, further comprising the step of monitoring the amount of oxidation of [said] the wastewater by monitoring the oxidation-reduction potential of [said] the wastewater.

4. (Once amended) [A method for treating waste rinse water, comprising the steps of:

providing an ozone system;

collecting wastewater in a tank means;

continuously transferring wastewater from said tank means to said ozone system and back to said tank means;

monitoring the amount of oxidation of said wastewater; and]

The method of claim 1, further comprising the step of:

discharging [said] the oxidized wastewater from the tank when [said] the amount of oxidation [declines to] reaches a predetermined level.

5. (Once amended) The method of claim [4] 1, [wherein said step of discharging said wastewater further includes the steps of providing a post ozonation filtration means for polishing and further reducing contaminants from the wastewater and routing said wastewater through said post ozonation filtration means.] further comprising the step of: re-using the oxidized wastewater from the tank when the amount of oxidation reaches a predetermined level.

6. (Once amended) [A method of treating waste rinse water, comprising the steps of:
bathing a predetermined part in a bath including contaminates;
removing said predetermined part from said bath;
providing a rinse system;
rinsing said predetermined part with water, said water becoming wastewater after having been used to perform said rinsing step;
collecting said wastewater in a wastewater tank means;
providing an ozone system;
continuously transferring wastewater from said tank means to said ozone system and back to said tanks means;
monitoring the amount of oxidation of said wastewater; and
returning said wastewater to said rinse system when said amount of oxidation reclines to a predetermined level.] The method of claim 4, wherein the step of discharging the oxidized wastewater further includes the steps of:
providing a post ozonation filtration system for polishing and further reducing contaminants from the wastewater;
routing the wastewater through the post ozonation filtration system.

7. (Once amended) A method for treating wastewater, comprising the steps of:
providing an ozone system;
pre-treating [said] the wastewater by separating [contaminates] contaminants therefrom;
collecting [said] the pre-treated wastewater in a tank [means];

[continuously transferring said pre-treated wastewater from said tank means to said ozone system and back to said tank means;]
transferring the pre-treated wastewater from the tank to the ozone system;
oxidizing the pre-treated wastewater at the ozone system;
returning the oxidized wastewater to the tank;
monitoring the amount of oxidation of [said pre-treated] the pre-treated wastewater in the tank; and
[reusing said pre-treated wastewater when said amount of oxidation declines to a predetermined level.]
repeating the steps of transferring, oxidizing, returning and monitoring until the amount of oxidation reaches a predetermined level.

8. (Once amended) [A method for treating waste rinse water, comprising the steps of:
providing an ozone system;
pre-treating said wastewater by separating contaminates therefrom;
collecting said pre-treated wastewater in a tank means;
continuously transferring said pre-treated wastewater from said tank means to said ozone system and back to said tank means;
monitoring the amount of oxidation of said pre-treated wastewater; and discharging said pre-treated wastewater when said amount of oxidation declines to a predetermined level.]
The method of claim 7, wherein the steps of transferring, oxidizing, returning and monitoring are repeated continuously until the amount of oxidation increases to a predetermined level.

9. (Once amended) The method of claim [8] 7, [wherein said step of discharging said pre-treated wastewater further includes the steps of providing a post ozonation filtration means for polishing and further reducing contaminates from said pre-treated wastewater and routing said pre-treated wastewater through said post ozonation filtration means.]
further comprising the step of monitoring the amount of oxidation of the wastewater by monitoring the oxidation-reduction potential of the wastewater.

10. (Once amended) The method of claim 7, [wherein the step of pre-treating said wastewater includes the step of aerating said wastewater.] further comprising the step of: discharging the oxidized wastewater from the tank when the amount of oxidation reaches a predetermined level.

11. (Once amended) The method of claim [8] 7, [wherein the step of pre-treating said wastewater includes the step of aerating said wastewater] further comprising the step of: re-using the oxidized wastewater from the tank when the amount of oxidation reaches a predetermined level.

12. (Once amended) The method of claim [10] 7, wherein the step of [aerating said wastewater includes the step of separating contaminates, floating atop said wastewater after said aerating step, from said wastewater by skimming said wastewater.] discharging the oxidized wastewater further includes the steps of:
providing a post ozonation filtration system for polishing and further reducing contaminants from the wastewater;
routing the wastewater through the post ozonation filtration system.

13. (Once amended) The method of claim 7, wherein the step of [aerating said wastewater includes the step of separating contaminates, floating atop said wastewater after said aerating step, from said wastewater by skimming said wastewater.] pre-treating the wastewater includes the step of aerating the wastewater.

14. (Once amended) The method of claim [7] 13, wherein the step of aerating [said] the wastewater further includes the step of separating [contaminates,] contaminants floating atop [said] the wastewater after [said] the aerating step[,from said wastewater by decanting said contaminates] by skimming the contaminants from the top of [said] the wastewater.

15. (Once amended) The method of claim [8] 13, wherein the step of aerating [said] the wastewater further includes the step of separating [contaminates,] contaminants floating

atop [said] the wastewater after [said] the aerating step[, from said wastewater] by decanting [said contaminates] the contaminants from the top of [said] the wastewater.

CERTIFICATE OF FACSIMILE TRANSMISSION
(37 C.F.R. 1.8)

I HEREBY CERTIFY that this Amendment B, including Exhibit A, is being faxed to the United States Patent and Trademark Office, Technology Center 1700, Art Unit 1724, Attn: Thomas M. Lithgow, (703) 872-9310 on October 9, 2002.

Dated: October 9, 2002

Deborah Preza